Healthy Aging Research

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Opinion Article

Memory Loss Associated with Aging: Its Causes and Explanations

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ABOUT THE STUDY

Age-related memory loss, which is also referred to as "normal aging," is thought to have a separate brain mechanism and is qualitatively distinct from memory loss linked to dementias like Alzheimer's disease.

Mild cognitive impairment

Memory issues are more frequent in adults with mild cognitive impairment than in the general population of their age. However, they are not as severe as the symptoms of Alzheimer's disease and do not preclude individuals from engaging in daily activities [1]. Symptoms include losing things, forgetting appointments or events, and having problems speaking.

Additionally, research has revealed patterns that are present in both MCI and AD [2]. People with mild cognitive impairment have trouble correctly defining words and utilizing them in proper phrases when asked, much like individuals with Alzheimer's disease [3]. MCI patients did worse than the control group on this task, but AD patients performed worse overall.

However, the capacity of MCI patients to give examples to make up for their limitations made their strengths stands out. Patients with AD showed different uses of episodic memory and executive functioning since they did not employ any compensating mechanisms [4].

Causes

Even though many theories have been investigated, the reasons for memory loss and aging remain unknown. Because it is difficult to pinpoint exactly how each facet of aging affects the memory and aging process, there hasn't been a clear correlation between the two. But it is well known that as we age, the brain gets smaller because the ventricles enlarge, leaving less space in the skull.

Memory lapses are annoying and frustrating, but they are caused by the brain having to process too much information at once. Memory problems can also be attributed to a number of common physical and psychological conditions, including: stress, anxiety, dehydration, depression, infections, medication side effects, inadequate nutrition, vitamin B12 deficiency, chronic alcoholism, thyroid disorders, and blood clots in the brain [5].

Some of these memory problems can be avoided by taking care of your health and mind with the right medicines, regular medical visits, and daily mental and physical exercise.

Stress, worry, or despair can all contribute to memory difficulties. A senior person may experience changes in lifestyle as a result of a painful life event, such as the death of a spouse, and may also feel uncertain of them, depressed, and lonely.

Therefore, dealing with such significant life upheavals may leave some people dazed or forgetful. Even though these emotions may eventually pass, it's crucial to treat these emotional issues carefully. The forgetting can be eased by providing emotional support to a hurting relative and enlisting the aid of a doctor or counsellor [6].

Theories

According to experiments and statistics, the contiguity effect which is caused by stimuli that happen near together in the same time period begins to wane as people get older. The associative deficit theory of memory, which examines how well an elderly person remembers things and attributes it to their difficulties in forming and remembering coherent events, lends support to this.

After adjusting for sex, education, and other health-related factors, the supporting study for this test demonstrates that older age was associated with lower hit and increased false alarm rates, as well as a more liberal bias reaction on identification tests [7].

When taking a memory test, older persons are more likely to make interruptions from the outside world. This results from the inhibitory effect. Participants under the influence of inhibition took longer to recall or recognize an object and made more mistakes overall [8]. For instance, older participants rejected accurate metaphors more frequently than literal false statements in a study utilizing metaphors as the test subject.

Working memory, a memory system that stores and manipulates information as we carry out cognitive tasks, experiences significant decreases as we age. Less attentional resources, a slower

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processing rate, a smaller information-holding capacity, and a lack of inhibitory control are some of the explanations put up to explain why these changes might take place. Strong reasons are presented in support of each of these hypotheses, and it is likely that the issues raised in each of these theories are what are causing working memory to deteriorate [9].

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